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TO:

Name: Examiner Rosalynd KeysFAX NO: (703) 872-9306

FROM:

Name: Rose StoweFor: Aaron R. Ettelman, Esq.
Patent Dept.NUMBER OF PAGES 32 INCLUDING THIS COVER PAGE.We are transmitting from facsimile machine (215) 628-1345.If you do not receive all the pages indicated above, please call Rose Stowe at (215) 628-1017 or 628-1000 between 8:00 A.M. and 5:00 P.M.

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ORIGINAL MESSAGE TO US BY MAIL. THANK YOU.

RE: Our Case H 2938 PCT/US (Serial No. 09/486,677)

Please find attached a complete copy of the documentation that was mailed to the USPTO on
July 22, 2003 in response to the "Notice of Abandonment" dated May 22, 2003. Should you need
anything further from us, please contact me at the phone number listed above.

Thank you for your assistance in this matter.

DOCKET NO. H 2938 PCT/us
SERIAL NO. 09/486677 ATTORNEY ARE/RAS
APPLICANT Barker et al.

The patent office acknowledges, and has stamped hereon the date of the receipt of the items checked below:

- () AFFIDAVIT OR DECLARATION
() AMENDMENT
() APPEAL NOTICE
() APPLICATION
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() BRIEF - IN TRIPLICATE
(X) CERT. OF MAILING BY EXPRESS MAIL
 7-22-03 (DATE)
() EXTENSION OF TIME REQUEST
() LETTER
() LETTER - CHARGE DEPOSIT ACCOUNT
() LICENSE PETITION (35 USC 184)
() DRAWINGS
() PCT TRANSMITTAL LETTER PTO-1390
(X) PETITION TO WITHDRAW THE HOLDING OF
() PRIORITY CLAIM ABANDONMENT
() REFERENCES/DOC



- 1) Copy of Return Postcard dated 3/03/03
(PTO acknowledged on 03/10/03)
- 2) Copy of Request for Reinstatement of
Appeal mailed 03/03/03
- 3) Copy of Appellants' Supplemental
Appeal Brief, including Claims
Appendix, mailed 03/03/03
- 4) Copy of Request for Extension of Time
Under 37 CFR § 1.136 mailed 03/03/03

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I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON THE DATE INDICATED BELOW.

BY: Rose A. Stowe DATE: July 22, 2003
Rose A. Stowe

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:	Patent Application of Ansgar Behler, <i>et al.</i>	: Group Art Unit: 1621 : :
Appln. No.:	09/486,677	: Examiner: Rosalynd Ann Keys : :
Filed:	June 26, 2000	: Confirmation No.: 8906 : :
For:	RANDOM FATTY ALCOHOL ALKOXYLATES WITH LOW TEMPERATURE STABILITY, AND METHODS OF PRODUCING AND USING THE SAME	: Attorney Docket : No.: H 2938 PCT/US : :

PETITION TO WITHDRAW THE HOLDING OF ABANDONMENT

In response to the Notice of Abandonment mailed on May 22, 2003 (Paper No. 19), Applicants hereby petition for the withdrawal of the Examiner's holding of abandonment in the above-identified application. The above-identified application ostensibly became abandoned after December 3, 2002, for Applicants' failure to timely respond to the Office Action dated September 3, 2002, (Paper No. 18), within the three-month shortened-statutory period for response.

Applicants' undersigned representative submits that a response to Paper No. 18, along with a Request for a Three-Month Extension of Time, including an authorization to charge fees, was filed via first class U.S. Mail on March 3, 2003, in accordance with the provisions of 37 C.F.R. §1.8. Copies of the Request for Reinstatement of Appeal, Appellants' Supplemental Appeal Brief, Petition for Extension of Time, and Date-Stamped Return Postcard are attached hereto, as evidence of Applicants' timely and complete response to Paper No. 18.

Appl. No.: 09/486,677
Group Art Unit: 1621

Since a complete and timely response to Paper No. 18 was filed in accordance with 37 C.F.R. §1.8 mailing procedures, and was apparently never received by the Office, through no fault of Applicants, no fee for submitting this Petition is believed to be due. However, the Commissioner is hereby authorized to charge Deposit Account No. 50-1177 if any fee under 37 C.F.R. 1.17 is deemed necessary for the accompanying Petition to be considered by the Patent Office.

Furthermore, as the instant Petition should not be considered untimely as it has not been more than two months since the mailing date of the Notice of Abandonment, in accordance with M.P.E.P. § 711.03(c)(I), it is submitted that no Terminal Disclaimer is required in conjunction with this Petition.

Accordingly, Applicants respectfully request withdrawal of the Holding of Abandonment and further request reinstatement of the appeal in accordance with the Request to Reinstate the Appeal submitted on March 3, 2003, in response to Paper No. 18.

Respectfully submitted,

ANSGAR BEHLER, *et al.*

July 22, 2003
(Date)

By: 

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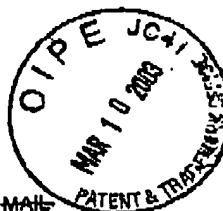
Enclosures:

- 1). Copy of Return Postcard dated 03/03/03 (PTO acknowledged on 03/10/03)
- 2). Copy of Request for Reinstatement of Appeal mailed 03/03/03
- 3). Copy of Appellants' Supplemental Appeal Brief, including Claims Appendix, mailed 03/03/03
- 4). Copy of Request for Extension of Time Under 37 CFR § 1.136, mailed 03/03/03

DOCKET NO. H2938 PCT/US
 SERIAL NO. 09/486677 ATTORNEY ARE/RAS
 APPLICANT Behler et al

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- ☐ AFFIDAVIT OR DECLARATION
- ☐ AMENDMENT
- ☐ APPEAL NOTICE
- ☐ APPLICATION
- ☐ ASSIGNMENT
- ☐ BASE ISSUE FEE
- ☐ BRIEF - IN TRIPLICATE
- ☒ CERT. OF MAILING BY EXPRESS MAIL
3-3-03 (DATE)
- ☒ EXTENSION OF TIME REQUEST (3 MDS.)
- ☐ LETTER
- ☒ LETTER - CHARGE DEPOSIT ACCOUNT (IN TRIP.)
- ☐ LICENSE PETITION (35 USC 184)
- ☐ DRAWINGS
- ☐ PCT TRANSMITTAL LETTER PTO-1390
- ☐ PETITION
- ☐ PRIORITY CLAIM
- ☐ REFERENCES/IDC
- ☐ RESPONSE
- ☐ TERMINAL DISCLAIMER
- ☐ PCT TRANSMITTAL LETTER PTO-1382 (IF DUPLICATE)
- ☐ PCT REQUEST PAGES; DESCRIPTION PAGES;
- ☐ CLAIMS PAGES; ABSTRACT PAGES
- ☐ FEE CALCULATION SHEET (IN TRIPLICATE)
- ☐ RESPONSE TO INVITATION TO CORRECT DEFECTS
- ☐ POWER OF ATTORNEY
- ☒ OTHER



- (1) REQUEST FOR REINSTATEMENT OF APPEAL UNDER
 37 C.F.R. § 1.193(b)(2)(i))
 (2) APPELLANT'S SUPPLEMENTAL BRIEF ON APPEAL
 UNDER 37 C.F.R. § 1.193(b)(2)(i)) (IN TRIP.)

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PATENT
Docket No. H 2938 PCT/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of
Behler, et al.

Serial No. 09/486,677

Examiner: Rosalynd Ann Keys

Filed: 06/26/2000

Art Unit: 1621

TITLE: RANDOM FATTY ALCOHOL ALKOXYLATES WITH LOW
TEMPERATURE STABILITY, AND METHODS OF PRODUCING
AND USING THE SAME

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

March 3, 2003
Date

Rose A. Stowe
Signature of certifier

Rose A. Stowe
Typed or printed name of certifier

**PETITION FOR EXTENSION OF TIME
UNDER 37 CFR § 1.136**

Commissioner for Patents
Washington, DC 20231

It is hereby requested that the shortened statutory period for responding to the Examiner's Action dated September 3, 2002 be extended three months from December 3, 2002 to March 3, 2003.

Please charge our Deposit Account No. 50-1177 in the amount of \$930.00 for the three month extension fee. Order No. 03-0118.

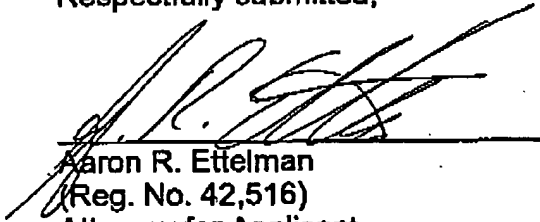
The Commissioner is hereby authorized to charge any deficiency in the required fee or to credit any overpayment to Deposit Account 50-1177.

Serial No. 09/486,677
Art Unit: 1621

Responsive Action has been taken by filing a REQUEST FOR REINSTATEMENT
OF APPEAL UNDER 37 C.F.R. § 1.193(b)(2)(ii) simultaneously herewith.

Respectfully submitted,

March 3, 2003
Date


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BY: Rose A. Stowe DATE: March 3, 2003
Rose A. Stowe

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re:	Patent Application of Ansgar Behler, <i>et al.</i>	: Group Art Unit: 1621 : : :
Appln. No.:	09/486,677	: Examiner: Rosalynd Ann Keys : :
Filed:	June 26, 2000	: : :
For:	RANDOM FATTY ALCOHOL ALKOXYLATES WITH LOW TEMPERATURE STABILITY, AND METHODS OF PRODUCING AND USING THE SAME	: Attorney Docket : No.: H 2938 PCT/US : : :

REQUEST FOR REINSTATEMENT OF APPEAL UNDER 37 C.F.R. §1.193(b)(2)(ii)

Pursuant to the Office Action, dated September 3, 2002, in which the Examiner reopened prosecution subsequent to the filing of Applicants' Brief on Appeal, Applicants hereby request reinstatement of the appeal. This Request for Reinstatement is being timely filed as a Petition for a three-month extension of time, up to and including March 3, 2003, including an authorization to charge fees, is being submitted herewith. Also submitted herewith, in triplicate, is Appellants' Supplemental Brief on Appeal under 37 C.F.R. §1.193(b)(2)(ii). Prosecution was reopened by the Examiner prior to a decision on the merits being rendered by the Board of Patent Appeals and Interferences, no new appeal fee or appeal brief transmittal fee is required.

Respectfully submitted,

ANSGAR BEHLER, et al.

March 3, 2003
(Date)

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OFFICIAL

BY: Rose A. Stowe DATE: March 3, 2003
Rose A. Stowe

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re:	Patent Application of	: Group Art Unit: 1621
	Ansgar Behler, <i>et al.</i>	:
		:
Appln. No.:	09/486,677	: Examiner: Rosalynd Ann Keys
		:
Filed:	June 26, 2000	:
		:
For:	RANDOM FATTY ALCOHOL	: Attorney Docket
	ALKOXYLATES WITH LOW	: No.: H 2938 PCT/US
	TEMPERATURE STABILITY, AND	:
	METHODS OF PRODUCING AND	:
	USING THE SAME	:

APPELLANT'S SUPPLEMENTAL BRIEF ON APPEAL
UNDER 37 C.F.R. §1.193(b)(2)(ii)

In response to the Office Action, mailed on September 3, 2002 (Paper No.18), in which the Examiner reopens prosecution subsequent to Appellants' Appeal Brief submitted on March 13, 2002, Appellants submit herewith a Supplemental Brief on Appeal under 37 C.F.R. §1.193(b)(2)(ii), in conjunction with a Request for Reinstatement of the Appeal, appealing the Examiner's rejections of pending claims 10, 14-26 and 30, as set forth in the Paper No. 18. This Supplemental Brief On Appeal is being timely filed as a Petition for a three-month extension of time, up to and including March 3, 2003, including an authorization to charge fees, is being submitted herewith. Appellants' Brief on Appeal submitted on March 13, 2002, is incorporated herein as if entirely restated.

Appellants respectfully request consideration by the honorable Board of Patent Appeals and Interferences and reversal of the Examiner's rejection of all pending claims based on the arguments set forth in the attached brief.

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REAL PARTY IN INTEREST

The real party in interest in the instant appeal is Cognis Deutschland GmbH & Co. KG, a German company having a place of business at Henkelstraße 67, 40589 Düsseldorf, Germany.

RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any related appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the instant appeal.

STATUS OF THE CLAIMS

Claims 10, 14-26 and 30 are pending in the instant application on appeal. All of the pending claims are the subject of the instant appeal.

Prior to reopening prosecution, claims 10, 14-26 and 30 stood finally rejected under 35 U.S.C. §103(a), as being unpatentable over Japanese Patent Publication No. JP 07-303825 (hereinafter referred to as "JP '825"), for the reasons set forth in the final Office Action dated June 13, 2001 (Paper No. 11). This rejection was responded to in Appellants' Brief on Appeal submitted on March 13, 2002, and the rejection has been withdrawn in favor of the "newly presented" rejections set forth in Paper No. 18.

In Paper No. 18, the Examiner rejects claims 10, 14-26 and 30 under 35 U.S.C. §103(a), as being unpatentable over British Patent No. GB 1,172,931 (hereinafter referred to as "GB '931"), in view of U.S. Pat. No. 4,731,378 of Naik, et al. (hereinafter referred to as "Naik"), or U.S. Pat. No. 4,999,041 of Grossmann, et al. (hereinafter referred to as "Grossmann"). Appellants would like to draw the Honorable Board's attention to the fact that the Examiner had previously withdrawn an obviousness rejection over GB '931 alone, in the Advisory Action mailed on December 4, 2001. When the arguments based upon GB '931 are explained below, and the additional teachings of Naik and Grossmann are considered, it will be apparent that the additional references do not add support to this otherwise already-withdrawn obviousness rejection.

In Paper No. 18, the Examiner rejects claims 10, 14-26 and 30 under 35 U.S.C. §103(a), as being unpatentable over JP '825 (which the Examiner now identifies as "Tominaga"), in view of Naik or Grossmann. Again, the arguments set forth below will show that the addition of the teachings of Naik or Grossmann to the arguments already presented by the Examiner in support of an obviousness rejection based on JP '825 alone, does not add any strength to the already withdrawn rejection over JP '825 alone.

All other previous rejections have been withdrawn by the Examiner.

STATUS OF AMENDMENTS

No amendments have been filed in the instant application on appeal subsequent to the Examiner's final rejection of claims 10, 14-26 and 30. Appellants' Request for Reconsideration After Final Rejection, filed on November 13, 2001 ("the Request for Reconsideration After Final"), has been considered but was not deemed to place the instant application in a condition for allowance, as indicated in Paper No. 14. Appellants' Brief on Appeal submitted on March 13, 2002 has been entered and was sufficient to remove the previous rejection of the pending claims under §103(a), but resulted in the reopening of prosecution. An appendix containing a copy of the claims involved in the appeal, in accordance with 37 C.F.R. §1.192(c)(9), is attached as Appendix A.

SUMMARY OF THE INVENTION

Appellants have surprisingly discovered that polymers of fatty alcohols which contain ethylene oxide and propylene oxide in random-polymerized form in the claimed ratio and amounts, exhibit excellent low-temperature behavior. (See, e.g., Appellants' Specification, p. 2, line 29, through p. 3, line 1). Accordingly, Appellants' claimed invention provides random fatty alcohol alkoxylates which are an unexpected improvement over the prior art.

One embodiment of Appellants' claimed invention is directed to mixtures of random fatty alcohol alkoxylates according to the general formula (I), as set forth in the claims. Such random fatty alcohol alkoxylates exhibit excellent low-temperature behavior, exemplified by low-temperature flowability and clarity, in addition to excellent cold water solubility. (See,

Appellants' Specification, page 4, lines 9-17). Other embodiments of Appellants' claimed invention are directed to processes for producing such mixtures and to water-dilutable concentrates containing the mixtures. (See, e.g., Appellant's Specification, p. 4, lines 18-23, & p. 5, lines 24-27).

As discussed in Appellant's Specification, known attempts to provide random fatty alcohol alkoxylates, which exhibit good low-temperature performance and which lack a tendency to precipitate at low temperatures, have failed. (See, e.g., Appellant's Specification, pp. 1-2). For example, according to JP '825 (as described in Appellant's Specification), a random adduct of lauryl alcohol alkoxylated with about 9 moles of ethylene oxide and about 2.4 moles of propylene oxide, in the presence of potassium hydroxide as basic catalyst, produces a product with a pour point of 7.5°C. However, this product also tends to precipitate in storage at temperatures below 0°C which is unacceptable. (See, Appellant's Specification, p. 2, lines 7-17).

Appellants' claimed mixture comprises random fatty alcohol alkoxylates according to the general formula (I):



wherein R^1 represents an alkyl group having from about 6 to about 22 carbon atoms, each EO represents $-CH_2CH_2O-$, each PO independently represents $-C(CH_3)HCH_2O-$ or $-CH_2C(CH_3)HO-$, and wherein n represents the average number of EO units present in each random fatty alcohol alkoxylate and has a value of from about 3 to about 5, and wherein m represents the average number of PO units present in each random fatty alcohol alkoxylate and has a value of from about 2 to about 2.5. (See, Claim 10). As used herein, and in the claims, "random" refers to the order of alkoxylation being randomized, as in a statistical distribution, and in contrast to block polymerization. (See, Appellant's Specification, p. 5, lines 13-15).

As indicated in Appellants' Specification, and as evidenced by the Examples set forth therein, mixtures of random fatty alcohol alkoxylates, in accordance with the claimed invention, surprisingly exhibit excellent low-temperature behavior, including significantly improved cold cloud points and cold water solubility. (See, Appellants Specification, p. 2, lines 18-20; p. 2, line 29, through p. 3, line 1; and p. 4, lines 9-17).

ISSUES

- (1) Are the teachings of Naik and Grossmann, which allegedly teach the use of surfactants in pesticides and herbicides respectively, in conjunction with the teachings of GB '931, which recite random alkoxide adducts of fatty alcohols with a weight ratio of propylene oxide to ethylene oxide of from 0.85:1 to 2.75:1, but which fail to teach a combination of the two within Appellants' claimed ranges, insufficient to render Appellants' claimed invention *prima facie* obvious?
- (2) Are the teachings of Naik and Grossmann, in conjunction with the teachings of JP '825, which recite random alkoxide adducts of fatty alcohols, having a degree of ethoxylation of from 5 to 15 and a degree of propoxylation of from 0.3 to 5, but which fail to teach a combination of the two within Appellants' claimed ranges, insufficient to render Appellants' claimed invention *prima facie* obvious?
- (3) Even if Appellants' claimed invention could be considered *prima facie* obvious based upon the 'close enough' range recited in GB '931 or the 'touching' range of ethoxylation recited in JP '825, do the references which disclose preferences towards, and exemplify only higher degrees of ethoxylation, teach away from the claimed random fatty alcohol alkoxylates?
- (4) Even if a *prima facie* case of obviousness could be established based upon any of the cited references, does Appellants' showing of unexpected and significantly improved results with respect to the low-temperature performance of the claimed alkoxylates overcome such a *prima facie* case of obviousness?

GROUPING OF THE CLAIMS

All of the pending claims stand or fall together for the purposes of the instant appeal.

ARGUMENT

I. The Rejection Over GB '931 in light of Naik or Grossmann is Improper

A. The Rejection of Claims 10, 14-26 and 30 Under §103(a) Over GB '931

In Paper No. 18, the Examiner rejects claims 10, 14-26 and 30 under 35 U.S.C. §103(a), as being unpatentable over GB '931, in view of Naik or Grossmann. The Examiner contends that GB '931 teaches "nonionic surface active agents (surfactants) having a random

mixture of oxypropylene and oxyethylene groups", citing several lines of pages 2 and 3, as well as Examples IV and V. (Paper No. 18, ¶ 6, page 3). The Examiner acknowledges that GB '931 fails to teach the claimed ranges of ethoxylation and propoxylation, but notes that GB '931 does teach a weight ratio of propylene oxide to ethylene oxide of from 0.85:1 to 2.75:1. The Examiner further contends that the weight ratio of propylene oxide to ethylene oxide in the pending claims is from 0.4:1 to 0.83:1. The Examiner argues that, "[t]he weight ratios of GB 1,172,931 and the instant invention are *close enough* that one having ordinary skill in the art would have expected them to produce the same results." (Paper No. 18, ¶ 6, page 4 (*emphasis added*)).

The Examiner then cites two CCPA cases from 1937 and 1971 in support of the proposition that, "it is well established that merely selecting proportions and ranges is not patentable absent a showing of criticality." (Paper No. 18, ¶ 6, page 4 (citing *In re Becket*, 33 USPQ 33 (CCPA 1937); and *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971)).

The Examiner then notes that while GB '931 fails to teach the use of surfactants with agrochemicals and pesticides, Naik and Grossmann teach the use of surfactants in pesticides and herbicides, respectively. Neither Naik, nor Grossmann, teaches or suggests mixtures of random fatty alcohol alkoxylates according to the general formula (I), having a weight ratio of propylene oxide to ethylene oxide of from 0.4:1 to 0.83:1.

However, on the basis of this argument, the Examiner maintains that the claimed invention is obvious.

B. Appellants' Traversal

Appellants respectfully traversed the Examiner's rejection based upon GB '931 alone in the Request for Reconsideration After Final, and initially with respect to claims 14, 19, 26 and 30 in Appellants' Amendment, filed on April 11, 2001, in response to the Office Action mailed October 11, 2000 (Paper No. 9). The rejection, based upon GB '931, without the addition of Naik or Grossmann, had been withdrawn.

Appellants again strenuously, but respectfully, traverse the Examiner's new rejection and her contentions and arguments in support thereof, for the reasons set forth below.

C. Requirements for Establishing Prima Facie Obviousness

It is extremely well-settled that in order to establish *prima facie* obviousness, the Examiner must show all of the following three criteria: (1) there must be some suggestion or motivation to modify or combine the references as suggested by the Examiner (it is not sufficient to say that the cited references can be combined or modified without a teaching in the prior art to suggest the desirability of the modification); (2) there must also be a reasonable expectation of success; and (3) the references as combined must collectively teach or suggest each and every element of the claims. The teaching or suggestion to combine and modify the cited art and the reasonable expectation of success must both be found in the prior art and not in the Applicant's Specification. (M.P.E.P. §2143).

Additionally, the Court of Customs and Patent Appeals has generally stated, and the Federal Circuit has reiterated to some degree that, "[i]n the case where the claimed ranges 'overlap or lie inside ranges disclosed by the prior art' a *prima facie* case of obviousness exists." (M.P.E.P. §2144.05 (I), citing *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990)).

It should be noted that the quoted text set forth above is not the precise holding of the court in either case. Moreover, both *Wertheim* and *Woodruff* involved situations where the claimed ranges were either *entirely within*, or *significantly overlapping*, the ranges taught by the prior art. Neither *Wertheim*, nor *Woodruff* dealt with 'touching' or bordering ranges. In fact, the *Wertheim* court actually only stated, in dictum, as pointed out in dissent by Examiners-in-Chief Pellman and Steiner in *Ex parte Lee*, 31 USPQ2d 1105 (BPAI 1993), that "ranges which overlap or lie inside ranges disclosed by the prior art may be patentable if the applicant can show criticality in the claimed range . . ." (*In re Wertheim*, 541 F.2d 257, 267, 191 USPQ 90 (CCPA 1976)). Nothing in the holding automatically mandates a finding of *prima facie* obviousness for bordering ranges. Additionally, the *Woodruff* court only stated, in reference to overlapping

ranges (claimed, 3-25; disclosed, 1-5), that no criticality of the claimed range had been shown, but that such a showing of criticality can overcome a *prima facie* case of obviousness. (*Woodruff*, at 1578). Neither *Wertheim*, nor *Woodruff*, stands for the proposition that a 'touching' range automatically establishes a *prima facie* case of obviousness.

Appellants submit that where a claimed range only touches, or borders on, an extreme limit of a prior art disclosure, it cannot be said that either anticipation or obviousness is absolute, or even *prima facie* apparent, without a more directed teaching. Consider for example, *Ex parte Wittpenn*, 16 USPQ2d 1730 (BPAI 1990), wherein an Examiner rejected an applicant's claims on the grounds that all of the claimed components were generally disclosed in a prior art reference. The *Wittpenn* board held that although the prior art contained all elements of applicant's invention, the prior art indicated no preference for any particular component of one of the elements, *i.e.*, the nonionic surfactant. The Board there held that, "... since we have been apprised of no disclosure within the [prior art] reference that would have led the routineer to make the critical selections to arrive at the claimed surfactant composition, we find that no *prima facie* case of obviousness has been established and that the rejection before us cannot be sustained." (*Id.* at 1731 (emphasis added)). Analogously, Appellants submit that where no disclosure within a reference would lead one of ordinary skill in the art to make the critical selections to arrive at the claimed combination of different and narrower ranges, despite a 'touching' range, no *prima facie* case of obviousness is established.

In any event, where a *prima facie* case of obviousness based on ranges has been established, the Federal Circuit has held that such "a *prima facie* case of obviousness can be rebutted if the applicant (1) can establish 'the existence of unexpected properties in the range claimed' or (2) can show 'that the art in any material respect taught away' from the claimed invention." (*In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (CAFC 1997), citing *In re Malagari*, 499 F.2d at 1303, 182 USPQ at 553 (CCPA 1974)). In *Malagari*, the Court stated that "the cited references state *no preference for lower carbon contents*, only 'typical preferred ranges.'" (*Malagari*, 499 F.2d at 1303 (emphasis added)). Accordingly, the Court held that since no preference toward a lower carbon content was taught, there was not a sufficient teaching away from a higher carbon content. (*Id.*).

Finally, the Federal Circuit has repeatedly held that, "[a] reference may be said to teach away when a person of ordinary skill, upon reading the reference, . . . would be led in a direction divergent from the path that was taken by the applicant . . ." (*Tec Air, Inc. v. Denso Manufacturing Michigan Inc.*, 192 F.3d 1353, 52 USPQ2d 1294 (CAFC 1999), citing *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (CAFC 1994)).

D. The Disclosures of GB '931, Naik and Grossmann

GB '931 teaches a mixture of compounds of the general formula R-O(A)H, wherein A represents a random mixture of oxypropylene and oxyethylene groups, wherein the weight ratio of oxypropylene to oxyethylene can be from 0.85:1 to 2.75:1, and preferably between 1.25:1 and 2.25:1. (See, GB '931, p. 2, lines 15-35; and p. 3, lines 19-30). GB '931 exemplifies such mixtures in Examples I, II, III, IV and V, as having oxypropylene to oxyethylene weight ratios of 2:1, 1.33:1, 1.72:1, 2:1, and 2:1, respectively. In each instance, the random alkoxyate contains *more propoxyate groups than ethoxyate groups*. GB '931 recites a weight ratio of oxypropylene to oxyethylene which neither overlaps, nor lies inside, the claimed ranges. GB '931 does not teach or suggest the claimed average number of ethoxyate and propoxyate groups.

GB '931 specifically teaches that, "... the amount of oxides used is very important . . . [i]n order to obtain the products of [GB '931], it is important that the oxides be employed in a weight ratio of oxypropylene to oxyethylene of from 0.85:1 to 2.75:1, preferably between 1.25:1 and 2.25:1." (See, GB '931, p. 3, lines 17-23 (*emphasis added*)).

Moreover, GB '931 only exemplifies oxypropylene to oxyethylene weight ratios of 2:1, 1.33:1, 1.72:1, 2:1, and 2:1. In each instance, the random alkoxyate contains more propoxyate groups than ethoxyate groups. Again, there is no teaching or suggestion which would lead one of ordinary skill in the art to expect similar properties outside of the taught ranges.

Naik is cited as support for the contention that the use of surfactants in a pesticide formulation is taught in the prior art. Grossmann is cited as support for the contention that the use of surfactants in a herbicide formulation is taught in the prior art.

E. Failure to Satisfy the Requirements for Prima Facie Obviousness

The teachings of GB '931 are not sufficient to establish a case of *prima facie* obviousness. Moreover, even if Naik or Grossmann teaches the use of surfactants in pesticides or herbicides, such a teaching is completely ineffectual in removing the deficiencies of GB '931. GB '931 simply fails to teach or suggest each and every element of the claims. Specifically, GB '931 fails to teach or suggest the claimed ranges of ethoxylate and propoxylate in the random fatty alcohol alkoxylates. The range taught by GB '931, of oxypropylene to oxyethylene of from 0.85:1 to 2.75:1, is outside of the claimed range. Neither Naik or Grossmann teaches or suggests the claimed subject matter. Neither Naik, nor Grossmann contains a teaching or suggestion of the claimed random fatty alcohol alkoxylates having the degrees of ethoxylation and propoxylation recited in the claims. The Examiner has not contended otherwise, and only cites Naik and Grossmann in reference to surfactant usage. Additionally, the Examiner has acknowledged that GB '931 does not explicitly teach the claimed random fatty alcohol alkoxylates.

The Examiner's assertion that the ratio taught by GB '931 is "close enough" is not sufficient to establish a *prima facie* case of obviousness. There is no teaching within the claimed ranges. There is no overlap of the disclosed ranges and the claimed ranges. In fact, GB '931 specifically teaches that it is important that the oxides be employed in a weight ratio of oxypropylene to oxyethylene of from 0.85:1 to 2.75:1, preferably between 1.25:1 and 2.25:1. As the reference specifically teaches that weight ratios within the disclosed range are required, one of ordinary skill in the art cannot reasonably be said to have expected equivalent performance outside of such a range. Accordingly, GB '931 fails to provide one of ordinary skill in the art with either motivation to modify its teachings in order to arrive at Appellants' claimed invention.

or a reasonable expectation of successfully achieving Appellants' claimed invention. Thus, the Examiner's arguments are insufficient to establish a *prima facie* case of obviousness.

II. The Rejection Over JP '825 in light of Naik or Grossmann is Improper

A. The Rejection of Claims 10, 14-26 and 30 Under §103(a) Over JP '825

In Paper No. 18, the Examiner rejects claims 10, 14-26 and 30 under 35 U.S.C. §103(a), as being unpatentable over JP '825, in view of Naik or Grossmann. The Examiner contends that JP '825, teaches nonionic surfactants having good fluidity at low temperatures "obtained by random addition of, on an average, 5-15 moles of ethylene oxide and 0.3-5.0 moles of propylene oxide", citing pages 2 through 4 of the reference, as well as Table 1. (Paper No. 18, ¶ 7, page 4). The Examiner acknowledges that JP '825 fails to specifically exemplify the claimed ranges of ethoxylation and propoxylation, but argues that the teachings of a reference are not limited to the preferred embodiments. The Examiner further contends that the ranges of ethoxylation and propoxylation disclosed in JP '825 overlap the claimed ranges. Specifically, the Examiner contends that the claimed range of ethoxylation recited in the instant claims (*i.e.*, from about 3 to about 5) overlaps with the disclosed range of from 5 to 15, and that the claimed range of propoxylation recited in the instant claims (*i.e.*, from about 2 to about 2.5) overlaps with the disclosed range of from 0.3 to 5.

The Examiner argues that, "where claimed ranges 'overlap or lie inside ranges disclosed by the prior art' a *prima facie* case of obviousness exists." (Paper No. 11, ¶ 5, pages 3-4 (citing *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997))).

The Examiner then notes that while JP '825 fails to teach the use of surfactants with agrochemicals and pesticides, Naik and Grossmann teach the use of surfactants in pesticides and herbicides, respectively. Neither Naik, nor Grossmann, teaches or suggests mixtures of random fatty alcohol alkoxylates according to the general formula (I), having a weight ratio of propylene oxide to ethylene oxide of from 0.4:1 to 0.83:1.

However, on the basis of this argument, the Examiner maintains that the claimed invention is obvious.

B. Appellants' Traversal

Appellants respectfully traversed the Examiner's rejection based solely upon JP '825 in both the Brief on Appeal filed March 13, 2002 and in the Request for Reconsideration After Final, and initially with respect to claims 14, 19, 26 and 30 in Appellants' Amendment, filed on April 11, 2001, in response to the Office Action mailed October 11, 2000 (Paper No. 9). The rejection, based solely upon JP '825, without the addition of Naik or Grossmann, had been withdrawn.

Appellants again strenuously, but respectfully, traverse the Examiner's new rejection and her contentions and arguments in support thereof, for the reasons set forth below.

C. Requirements for Establishing Prima Facie Obviousness

Appellants reiterate, and incorporate herein by reference, the entire contents of section I.C. above.

D. The Disclosure of JP '825, Naik and Grossmann

A complete English translation of JP '825 was submitted by Appellants in an Information Disclosure Statement filed on June 26, 2000. All page, section and Example references to JP '825 made herein refer to the pagination of the English translation. JP '825 discloses nonionic surfactants which are obtained by the random alkoxylation of a predominantly saturated linear C₈₋₁₈ fatty alcohol with 5-15 moles of ethylene oxide and from 0.3-5 moles of propylene oxide. (See, JP '825, p. 2, section 0005). JP '825 also discloses a degree of propoxylation of from 0.3-5.0 moles. (See, *id.*). The Examiner contends that Appellants' claimed range of ethoxylation, (*i.e.*, from about 3 to about 5), touches, or just overlaps, the disclosed range of "5-15", set forth in JP '825. However, the reference contains no teaching or

suggestion to select and combine particular degrees of ethoxylation and propoxylation by which one would arrive at amounts which would fall within Appellants' claimed ranges.

In fact, JP '825 teaches away from Appellants' claimed invention. JP '825 suggests that the disclosed surfactants should contain at least 7 moles of ethylene oxide per fatty alcohol molecule. JP '825 does not contain a single example of surfactants having 5 moles of ethylene oxide per mole of fatty alcohol. In the inventive Examples of JP '825, the random alkoxyates (Ex. 1, 2, and 3) contain at least 8 moles of ethoxylate. Moreover, the overall degree of alkoxylation of the surfactants disclosed in the Examples of JP '825 (*i.e.*, from 10 to 14), is much higher than the claimed invention wherein the combined average number of ethoxylate groups and propoxylate groups is from about 5 to about 7.5 (*i.e.*, about 3 to about 5 plus about 2 to about 2.5). In the only reference to a molar amount of ethoxylate below 7 moles, (*i.e.*, Comparative Example 8), the ratio of propoxylate to ethoxylate is 0.25 to 1, such that the degree of propoxylation would be outside of the claimed range. JP '825 suggests much higher degrees of alkoxylation than the claimed random fatty alcohol alkoxyates, and moreover, a higher ratio of ethoxylate to propoxylate.

Naik is cited as support for the contention that the use of surfactants in a pesticide formulation is taught in the prior art. Grossmann is cited as support for the contention that the use of surfactants in a herbicide formulation is taught in the prior art.

E. Failure to Satisfy the Requirements for Prima Facie Obviousness

The teachings of JP '825 are not sufficient to establish a case of *prima facie* obviousness. JP '825 does not teach or suggest each and every element of the claimed invention. JP '825 does not contain any teaching or suggestion which would motivate one of ordinary skill in the art to modify its teachings to arrive at the claimed invention. Finally, JP '825 does not provide one of ordinary skill in the art with a reasonable expectation of success based on such an allegedly suggested modification. Moreover, even if Naik or Grossmann teaches the use of surfactants in pesticides or herbicides, such a teaching is completely ineffectual in removing the deficiencies of JP '825. Neither Naik or Grossmann teaches or suggests the claimed subject

matter. Neither Naik, nor Grossmann contains a teaching or suggestion of the claimed random fatty alcohol alkoxylates having the degrees of ethoxylation and propoxylation recited in the claims. The Examiner has not contended otherwise, and only cites Naik and Grossmann in reference to surfactant usage.

Appellants submit that JP '825 does not teach the claimed ranges. The Examiner has acknowledged that JP '825 does not explicitly teach the claimed random fatty alcohol alkoxylates. Appellants submit that the disclosure of JP '825 also fails to suggest each and every element of the claimed invention. The Examiner has selected and isolated the disclosed range of ethoxylation in JP '825. While the disclosed range is from 5-15 moles of ethoxylate, this does not suggest a mixture of random fatty alcohol alkoxylates according to the general formula (I):



wherein R^1 represents an alkyl group having from about 6 to about 22 carbon atoms, each EO represents $-CH_2CH_2O-$, each PO independently represents $-C(CH_3)HCH_2O-$ or $-CH_2C(CH_3)HO-$, and wherein n represents the average number of EO units present in each random fatty alcohol alkoxylate and has a value of from about 3 to about 5, and wherein m represents the average number of PO units present in each random fatty alcohol alkoxylate and has a value of from about 2 to about 2.5.

The teachings of JP '825 do not suggest the claimed alkoxylates. JP '825 contains broad disclosure of an amount of ethoxylate and an amount of propoxylate, which could be selected and combined such that the amounts would touch the claimed ranges. This does not constitute *prima facie* obviousness. The fact that a reference can be modified is not sufficient without a suggestion to do so. JP '825 simply does not suggest a random fatty alcohol alkoxylate according to the claimed invention.

In this regard, Appellants submit that there is no teaching or suggestion to modify the disclosure of JP '825 in order to arrive at Appellants' claimed invention. As discussed previously, JP '825 specifically suggests amounts of ethoxylation higher than at least 7 moles per mole of fatty alcohol, and higher amounts of propylene oxide than ethylene oxide as well. The lowest amount of ethoxylation exemplified is 8 moles. These teachings would not lead one of ordinary skill in the art to modify the disclosure as suggested by the Examiner.

Finally, one of ordinary skill in the art would not expect success by making such a modification when JP '825 specifically teaches inadequate performance where ethoxylation and propoxylation amounts are outside the exemplified ranges and ratios.

Furthermore, Appellants again respectfully submit that an instance of a "bordering" or "touching" range should not automatically mandate a finding of *prima facie* obviousness where there is no suggestion to select an amount at such a borderline, much less a teaching to do so.

III. GB '931 and JP '825 Teach Away from the Claimed Invention

Nonetheless, even if Appellants' claimed invention could be considered *prima facie* obvious based upon the 'close enough' range described in GB '931 of the 'touching' range of ethoxylation recited in JP '825, Appellants submit that such alleged cases of *prima facie* obviousness are overcome because GB '931 and JP '825 each teach away from the claimed invention.

GB '931 specifically teaches that it is important that the oxides be employed in a weight ratio of oxypropylene to oxyethylene of from 0.85:1 to 2.75:1, preferably between 1.25:1 and 2.25:1. The importance associated with the disclosed and preferred ranges underscores the reference's guidance away from ranges outside its teachings.

JP '825 specifically suggests that the disclosed surfactants should contain at least 7 moles of ethoxylate per mole of fatty alcohol. Moreover, the total amount of alkoxylation exemplified in JP '825 is much higher than the claimed invention.

As stated in Section I.C. above, the Federal Circuit has held that when one of ordinary skill, upon reading a reference, would be lead in a divergent direction from that which an applicant has taken, the reference teaches away from the applicant's invention. Additionally, the CCPA has previously held, that where no preference for lower amounts was taught by a reference, that reference did not teach away from higher amounts. (*See, In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549 (CCPA 1974)).

Conversely, in the instant appeal, the cited reference specifically does teach a preference for higher amounts of ethoxylation, and thus should be found to "teach away" from lower amounts of ethoxylation.

IV. Indicia of Non-Obviousness

Finally, even if it were assumed, for argument's sake, that a *prima facie* case of obviousness could be established based upon any of the cited references, alone or in combination, which it cannot, Appellants submit that any such *prima facie* case of obviousness should be found to be overcome by Appellant's showing of unexpected and advantageous results in terms of significantly improved low temperature behavior. Appellants additionally maintain that the evidence set forth in the Specification sufficiently rebuts any alleged *prima facie* case of obviousness, and respectfully request reconsideration in this regard by the Honorable Board.

As set forth in the Specification, mixtures of random fatty alcohol alkoxylates, in accordance with the claimed invention, exhibit excellent low-temperature behavior, including significantly improved cold cloud points and cold water solubility. Moreover, this significant improvement is surprising. (See, Appellants' Specification, p. 2, lines 18-20; p. 2, line 29, through p. 3, line 1; and p. 4, lines 9-17).

In the Examples, which begin at page 6, line 13 of the Specification, random fatty alcohol alkoxylates, in accordance with the claimed invention are compared to block polymers with similar degrees of alkoxylation. As evidenced by the significantly lowered cloud points (*i.e.*, -4°C and -14°C versus 1.5°C and 7.5°C) and the improved solubility in cold water, the random fatty alcohol alkoxylates, in accordance with the claimed invention outperform the low-temperature properties of other fatty alcohol alkoxylates.

In Paper No. 18, the Examiner completely ignores the previous arguments presented in this regard. In Paper No. 11, the Examiner reiterated the argument that a "side by side" comparison in the form of a Declaration is necessary, under Section 716 of the M.P.E.P. Appellants respectfully submit, that Section 716 of the M.P.E.P does not require the submission of a "side-by-side" comparison in order to successfully establish unexpected results. Appellants

respectfully submit, that section 716.02(e) simply outlines one requirement of a Declaration under 37 C.F.R. §1.132, namely that such a declaration compare the claimed subject matter with the closest prior art. There is no requirement for a Declaration.

However, section 716.02(b), which is more specifically related to the burden of proof concerning allegations of unexpected results, clearly indicates that both direct and *indirect* comparisons with the prior art may be made. Furthermore, the Federal Circuit has held that "the PTO must consider comparative data in the specification in determining whether the claimed invention provides unexpected results." (*In re Soni*, 34 USPQ.2d 1684, 1687 (Fed. Cir. 1995) (*emphasis added*), citing *In re Margolis*, 228 USPQ 940 (Fed. Cir. 1986)). The Federal Circuit also held that, "when an applicant demonstrates *substantially* improved results, . . . , and states that the results were *unexpected*, this should suffice to establish unexpected results *in the absence of evidence to the contrary*." (*Soni*, at 1688 (*emphasis in original*)).

Appellants submit that significantly improved results shown by indirect comparison, as set forth in the Specification, along with Appellants' statement that such improved results are unexpected, satisfy the required burden under Section 716.02(b) of the M.P.E.P. and *Soni*, absent evidence to the contrary.

As mentioned above, Appellants' Specification states that the significantly improved cold cloud points and cold water solubility achieved by the claimed invention are surprising. Furthermore, the results set forth in the Examples of the Specification clearly evidence significant improvement.

It is submitted that Appellants' showing of unexpected and improved results sufficiently rebuts any alleged *prima facie* case of obviousness.

CONCLUSION

In view of the arguments set forth above, Appellants submit that the Examiner's rejections under 35 U.S.C. §103(a) are improper, that the Examiner has failed to establish a *prima facie* case of obviousness, that any alleged *prima facie* case of obviousness is sufficiently rebutted both by the teaching away of the cited references and by Appellants' showing of significantly improved results, and that all claims on appeal patentably distinguish over the prior

art of record and known to Appellants, either alone or in combination. Accordingly, Appellants respectfully request that the Board find for Appellants and reverse the Examiner's rejections.

Respectfully submitted,

ANSGAR BEHLER, et al.

March 3, 2003
(Date)

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APPENDIX A**Claims On Appeal:**

1. CANCELED
2. CANCELED
3. CANCELED
4. CANCELED
5. CANCELED
6. CANCELED
7. CANCELED
8. CANCELED
9. CANCELED

10. A mixture of polymers comprising random fatty alcohol alkoxylates according to the general formula (I):



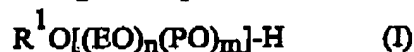
wherein R^1 represents an alkyl group having from about 6 to about 22 carbon atoms, each EO represents $-CH_2CH_2O-$, each PO independently represents $-C(CH_3)HCH_2O-$ or $-CH_2C(CH_3)HO-$, and wherein n represents the average number of EO units present in each random fatty alcohol alkoxylate and has a value of from about 3 to about 5, and wherein m represents the average number of PO units present in each random fatty alcohol alkoxylate and has a value of from about 2 to about 2.5.

11. CANCELED
12. CANCELED
13. CANCELED

14. The mixture according to claim 10, wherein R^1O represents a fatty alcohol residue derived from a fatty alcohol mixture, said mixture comprising at least

about 30% by weight of alcohols having from about 14 to about 18 carbon atoms and up to about 70% by weight of alcohols having from about 6 to about 12 carbon atoms.—

15. A process for producing a mixture of polymers comprising random fatty alcohol alkoxylates according to the general formula (I) :



wherein R^1 represents an alkyl group having from about 6 to about 22 carbon atoms, each EO represents $-CH_2CH_2O-$, each PO independently represents $-C(CH_3)HCH_2O-$ or $-CH_2C(CH_3)HO-$, and wherein n represents the average number of EO units present in each random fatty alcohol alkoxylate and has a value of from about 3 to about 5, and wherein m represents the average number of PO units present in each random fatty alcohol alkoxylate and has a value of from about 2 to about 2.5; said process comprising reacting ethylene oxide, propylene oxide and fatty alcohol in the presence of an aqueous base, wherein the propylene oxide and the ethylene oxide are present during the reaction in a molar ratio of from about 10:90 to about 60:40.

16. The process according to claim 15, wherein the propylene oxide and the ethylene oxide are present during the reaction in a molar ratio of from about 10:90 to about 50:50.

17. The process according to claim 15, wherein the propylene oxide and the ethylene oxide are present during the reaction in a molar ratio of from about 25:75 to about 50:50.

18. The process according to claim 15, wherein the propylene oxide and the ethylene oxide are present during the reaction in a molar ratio of from about 25:75 to about 40:60.

19. The process according to claim 15, wherein said fatty alcohol is a mixture of at least two fatty alcohols, said mixture comprising at least about 30% by weight of alcohols having from about 14 to about 18 carbon atoms and up to about 70% by weight of alcohols having from about 6 to about 12 carbon atoms.

20. The process according to claim 15, wherein said aqueous base comprises a hydroxide selected from the group consisting of alkali metal hydroxides and alkali earth metal hydroxides.

21. The process according to claim 20, wherein said hydroxide comprises potassium hydroxide.

22. The product of the process according to claim 15.

23. A water-dilutable concentrate comprising an active ingredient and a surfactant, said surfactant comprising a mixture of polymers comprising random fatty alcohol alkoxylates according to the general formula (I):



wherein R^1 represents an alkyl group having from about 6 to about 22 carbon atoms, each EO represents $-CH_2CH_2O-$, each PO independently represents $-C(CH_3)HCH_2O-$ or $-CH_2C(CH_3)HO-$, wherein n represents the average number of EO units present in each random fatty alcohol alkoxylate and has a value of from about 3 to about 5, and wherein m represents the average number of PO units present in each random fatty alcohol alkoxylate and has a value of from about 2 to about 2.5.

24. The water-dilutable concentrate according to claim 23, wherein said active ingredient comprises one or more components selected from the group consisting of detergents, agrochemicals and pesticides.

25. The water-dilutable concentrate according to claim 23, wherein said active ingredient comprises a detergent, and wherein said surfactant is present in an amount of from about 10% to about 30% by weight, based on the active ingredient.

26. The water-dilutable concentrate according to claim 23, wherein said active ingredient comprises an agrochemical and/or a pesticide, and wherein said surfactant is present in an amount of from about 0.1% to about 15% by weight, based on the active ingredient.

27. CANCELED

28. CANCELED

29. CANCELED

30. The water-dilutable concentrate according to claim 23, wherein R^1O represents a fatty alcohol residue derived from a fatty alcohol mixture, said mixture comprising at least about 30% by weight of alcohols having from about 14 to about 18 carbon atoms and up to about 70% by weight of alcohols having from about 6 to about 12 carbon atoms.